

REMARKS/ARGUMENTS

The amendment to Claim 5 is supported by the claim as originally filed, specification page 1, line 11, by the paragraph bridging specification pages 6-7, and by original Claim 1. New Claims 7-9 are supported by original Claims 2-4, respectively. New Claims 10 and 11 are supported at specification page 7, lines 20-22. New Claim 12 combines several limitations of the claims that precede it. New Claim 13 is supported at specification page 7, line 22. New Claim 14 is supported at specification page 6, lines 10-11. New Claim 15 is supported at specification page 4, lines 14-16. New Claim 16 is supported at specification page 4, lines 26-27. New Claim 17 is supported at specification page 3, lines 1-2. New Claim 18 is supported at specification page 5, lines 4-5. New Claim 19 is supported at specification page 1, lines 16-17. New Claims 20 and 21 are supported by the paragraph bridging specification pages 6-7. Finally, new Claim 22 is supported by several claims which precede it. No new matter has been entered.

As noted at specification page 2, line 25ff, the present invention relates to the quenching of a metallic material in which the cooling characteristics of a quenching oil are adjusted by changing pressure. See the paragraph bridging specification pages 6-7. As discussed further therein, the pressure-variable nature of Applicants' quenching oil allows one to cover the range of H-values for both cold and hot oils with a single oil.

The references cited against the claims, Hewson, Sweet, and Ichitani, applied separately, do not disclose or suggest Applicants' presently claimed method. In fact, even had the references been considered in combination no *prima facie* case of obviousness would have been presented.

Specifically, Hewson does not disclose or suggest quenching under reduced pressure conditions as presently claimed. Thus, and regardless of the properties of the quench oil described therein, the reference cannot and does not disclose a method for quenching where

the pressure on the surface of a quenching oil is adjusted to below normal pressure (i.e., a reduced pressure condition) having a lower limit of 13 kPa, and thus cannot meet the limitations of, e.g., Claim 5. Sweet similarly fails to disclose or suggest such reduced pressure conditions.

Ichitani (U.S. 7,347,927) does not appear to be available as prior art herein, as the inventorship of Ichitani is identical with the present application. Nevertheless, and because the PCT publication referenced on the front page of Ichitani may be available against the present application, Applicants again point out that a method for quenching where the pressure on the surface of a quenching oil is adjusted to below normal pressure is nowhere disclosed or suggested.

Importantly, even if the Office were 1) to take the position that the oils disclosed in Hewson, Sweet, or Ichitani were, inherently, quenching oils that comprise Applicants' presently claimed components (A) and (B) and 2) it was asserted that the disclosed oils were inherently capable of behaving as both hot and cold oils depending upon pressure condition, there is absolutely no guidance or suggestion provided in any of the cited references that would suggest Applicants' presently claimed reduced pressure condition quenching *method* because the possible existence of an alleged inherent unrecognized characteristic would not motivate one of ordinary skill in the art to develop a method that takes advantage of this unrecognized characteristic. As explained by reference to the several Examples and Comparative Examples herein beginning at specification page 9, Applicants realized that they were able to change the H-value of their quenching oil by changing the pressure on the surface of the oil, and thereby change the nature of the oil itself. This discovery has been exploited in the presently claimed method, and the Examples and Comparative Examples show that oils with good characteristic times that are capable of significant changes in H-value with pressure provide particularly excellent results.

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Accordingly, because nothing in any of the cited references disclose or suggest what Applicants are herein claiming, Applicants respectfully submit that the present application is in condition for allowance, and early notification to this effect is respectfully requested.

Respectfully submitted,

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